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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/197,012	11/20/1998	DANIEL B. ROITMAN	10981133-1	9808

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EXAMINER
GUHARAY, KARABI

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/197,012	ROITMAN ET AL.	
	Examiner	Art Unit	
	Karabi Guharay	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Amendment D, filed on 2/26/02, has been entered.

Amendments of claims 1 and 10 overcome the rejection of claims 1-14 under 35 U.S.C. 112 second paragraph.

Claim Objections

Claims 15-23, are objected to under 37 CFR 1.75, as being duplicate of claims 1-9 respectively, and also claims 24-28 are objected under 37 CFR1.75 as being duplicate of claims10-14 respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (US 5920080).

Regarding claim 1, Jones discloses an organic light emitting device (10 of Fig 4) comprising an electrode (251, 202 of Fig 3, lines 14-15 of column 9, lines 39-41 of column 8) a conductive current self-limiting structure (253 and 203 of Fig 4, lines 43-49 of column 8, semiconductor layer 203 comprise barium titanate and also comprises Cr,

or other metals, thus conductive) adjacent to the electrodes and an organic stack (300 of Fig 5, lines 10-12 of column 9) adjacent said electrode.

Regarding claim 2, Jones discloses that the current self-limiting structure (253 of Fig 3) resides in contact with the electrode (251 of Fig 3).

Regarding claim 3, Jones discloses that the current self-limiting structure (253 and 203 of Fig 4) applied as a patterned lattice structure over the electrode (lines 21-22 of column 7, see Fig 8).

Regarding claim 4, Jones discloses that the current self-limiting structure (203) is applied as a grid defining windows in which the electrode (202 of Fig 4) is applied.

Regarding claim 5, though Jones does not specifically mention that the current self-limiting structure (253 and 203 of Fig 4) comprises an anisotropically conductive material, it is inherent since Jones used barium titanate as the current limiting component, which is an anisotropically conductive material (see US 5414403).

Regarding claim 6, Jones discloses a photoresist material in contact with the electrode (202 of fig 4) and the current self-limiting structure (203 of Fig 4, see lines 51-54 of column 8).

Regarding claim 7, Jones discloses that the current self-limiting structure (203 of Fig 4) resides between the electrode (202 of Fig 4) and a conducting layer (not shown in Fig, see lines 56-59 of column 8).

Regarding claim 8 Jones discloses that the conducting layer is embedded within the current self-limiting structure (203 of Fig 4, see lines 56-59 of column 8).

Regarding claim 9, Jones discloses that the conducting layer resides over the current self-limiting structure (lines 56059 of column 8).

Claim 10 recites essentially the same limitation of claim1. Thus claim 10 is rejected as claim 1 (see rejection of claim1). In this case, Jones does not explicitly specify that the organic light-emitting device has increased the reliability. But it is inherent since Jones uses current self-limiting component in the device.

Claim 11 recites essentially the same limitation of claim 2. Thus claim 11 is rejected as claim 2 (see rejection of claim 2).

Claim 12 recites essentially the same limitation of claim 3. Thus claim 12 is rejected as claim 3 (see rejection of claim 3).

Claim 13 recites essentially the same limitation of claim 4. Thus claim 13 is rejected as claim 4 (see rejection of claim 4).

Claim 14 recites essentially the same limitation of claim 5. Thus claim 14 is rejected as claim 5 (see rejection of claim 3).

Rest of the pending claims 15-28, are duplicates of above claims as mentioned above, thus rejected as claims 1-14.

Response to Arguments

Applicant's arguments filed on February 26, 2002 have been fully considered but they are not persuasive.

Applicant's first argument is regarding thickness of the current self-limiting structure. However, does not apply here, since amended claim 1 does not recite

anything about the thickness of the layer. Still, in response to applicant's argument that the 10nm thick barium titanate layer is too **thin** to provide current self limiting function, examiner respectfully states that it is just an opinion, since applicant neither disclose in the specification what thickness is suitable of acting as a current self-limiting layer, nor provide an evidence which clearly indicates that 10nm thick layer of current self-limiting material such as barium titanate cannot act as a current self limiting layer. There is no discussion in the specification of the criticality of the thickness. Thus, it is not clear why one of ordinary skill in the art would recognize that 10nm thick transition layer 203 of prior art is incapable of acting as a current self-limiting layer, as indicated by applicant.

In specification page 13, Line17, applicant discloses that CSL structure is **relatively thin**. Thus it is not clear which thickness will be considered to be thin not to have current self-limiting capability. Since the sufficient thickness of the CSL layer to prevent excessive current in the vicinity of the short is not defined, having a layer of current self-limiting material, CSL layer of Jones' device will intrinsically function as a current self-limiting layer.

Applicant's second allegation is that the prior art *high dielectric material barium titanate does not allow conduction*, thus *could never be a true conductive layer in the first instance* and also alleged (see remark, page 9, lines 21-22 of fourth Response) that *nowhere in the prior art is the transition layer 203 described as a conducting structure.*

Regarding this, first of all examiner wants to points out (also see rejection of claim 1) that the prior art teaches that the transition layer 203 is a semiconductor layer

doped with inorganic conductive particles (see lines 45-49 of column 8). Thus prior art transition layer 203 is indeed conductive.

Moreover, in order to provide further evidence that barium titanate layer doped with conductive material is a well known material for a current self-limiting structure, examiner respectfully draws attention to a reference, US patent # 5414403, which teaches that current limiting components have resistance material having PCT behavior, such materials are a ceramic, based on doped barium titanate (material for Jones' transition layer 203) or an electrically conductive polymer (also mentioned in applicant's specification, as a suitable material for current self limiting material).

Regarding claim 6, Jones discloses that conductor 202 having slopes is achieved through resist loss, which inherently teaches a resist layer in contact with electrode and layer 203.

As long as evidence of record establish inherency, failure of those skilled in the art to contemporaneously recognize an inherent property, function or ingredient of a prior art reference does not preclude a finding of anticipation (see MPEP 2131.01 (III)).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.G
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Patent Examiner
Art Unit 2879

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